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## Investigation of a novel transposed superconducting cable using REBCO coated conductors

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For high field accelerator magnets, it is more attractive to wind the coils with a compact high current-carrying capacity cable, which is composed of tens or even hundreds of superconductors. In the last decades, various REBCO cable conceptions have been proposed, but only a few cables, such as Roebel cable, can achieve a current density as high as single tapes. However, the high performance of the Roebel cable is at the expense of losing almost half of the original REBCO tapes, resulting in high costs. Herein, we are developing a novel high-current-density and low-cost cable with a Roebel-like structure, but is implemented by directly bending REBCO coated conductors to realize the transposition and reduce the dynamic losses. Recently, some prototype cables have been manufactured and successfully tested. The main parameters, fabrication process and experimental results of those prototype cables will be presented.

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